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(54) Spray or shower assemblies

(57) A spray shower assembly comprises a head (5) having at one end a connection to a pressurised water supply, and at the other end means a spray outlet (2). Intermediate the two ends a chamber is provided for housing a block (3) of a substance to be dispensed in the spray. The chamber has means for gaining access thereto (in Fig. 1B a tubular adaptor (4) is detachable) so that the block (3) can be inserted in the chamber. The block may be composed of a water softener or perfume, a disinfectant, a soap, a shampoo, an insecticide, a fertilizer, or a weed killer.

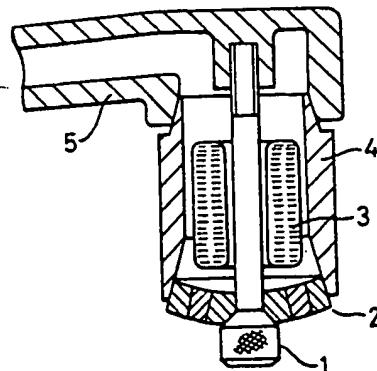


Fig. 1B

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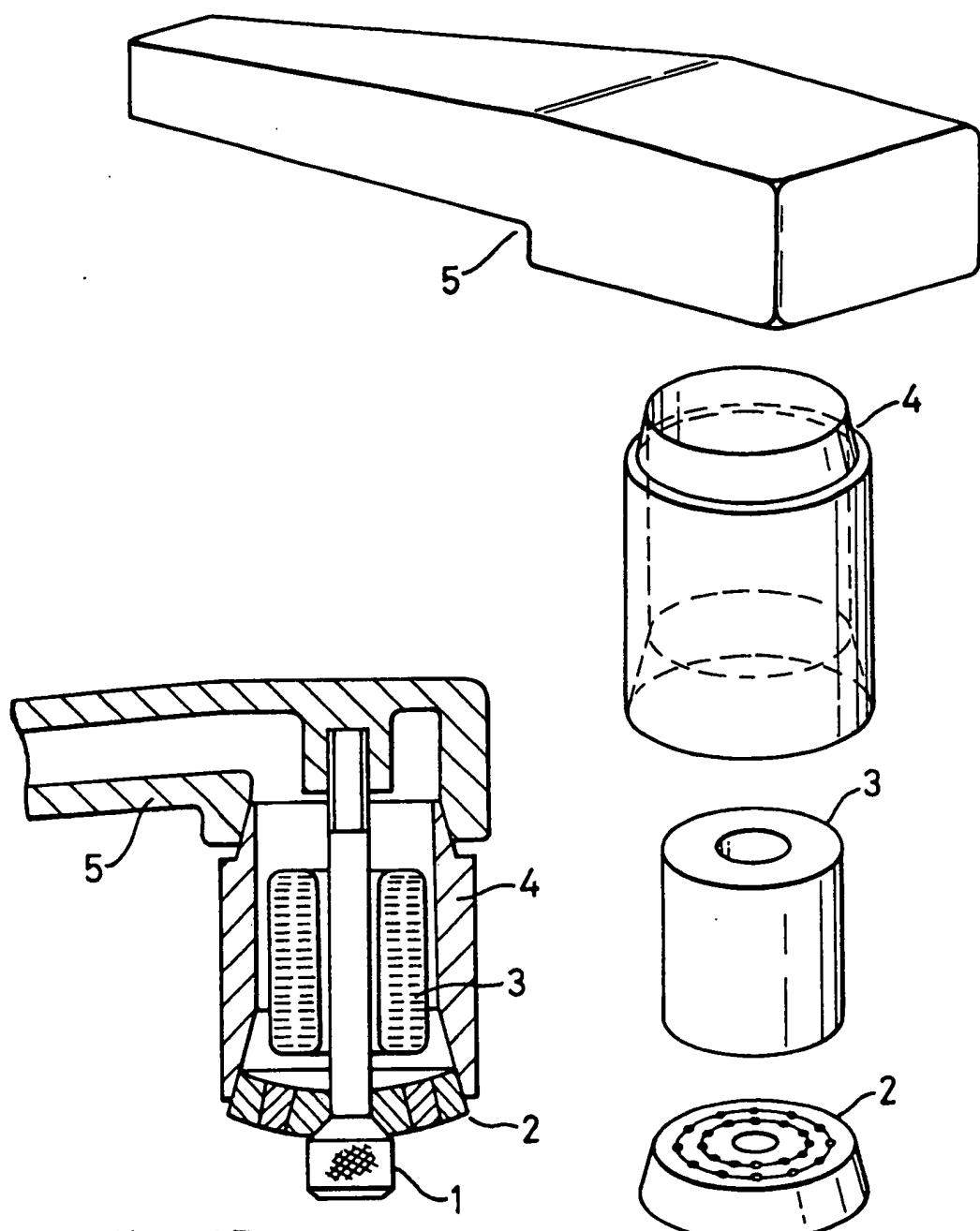


Fig. 1B

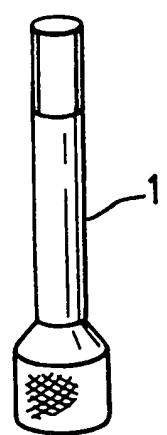


Fig. 1A

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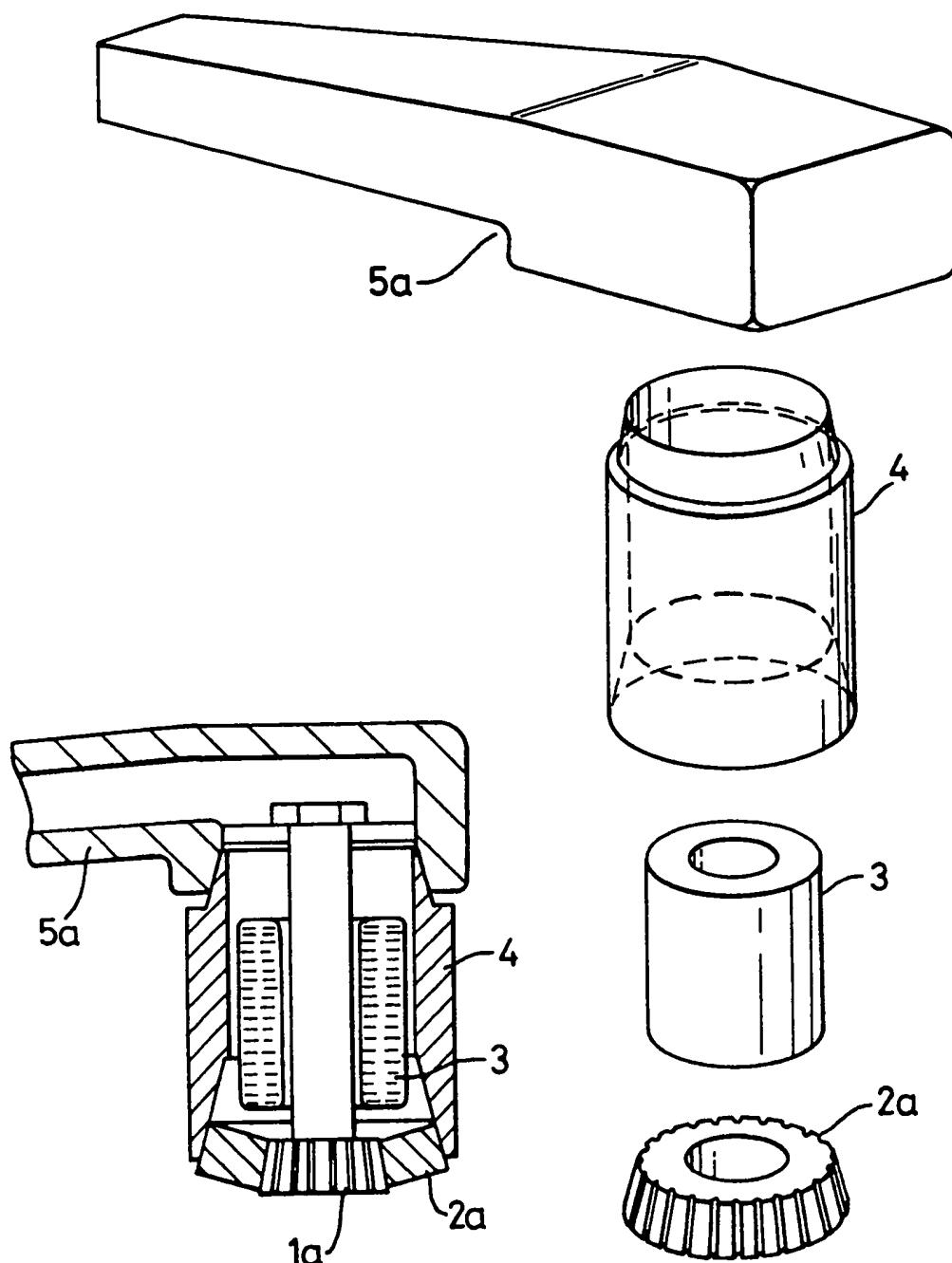


Fig. 2B

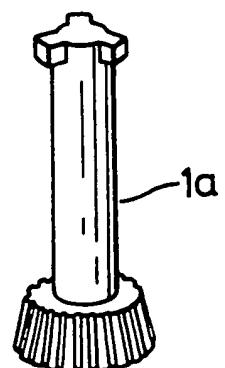


Fig. 2A

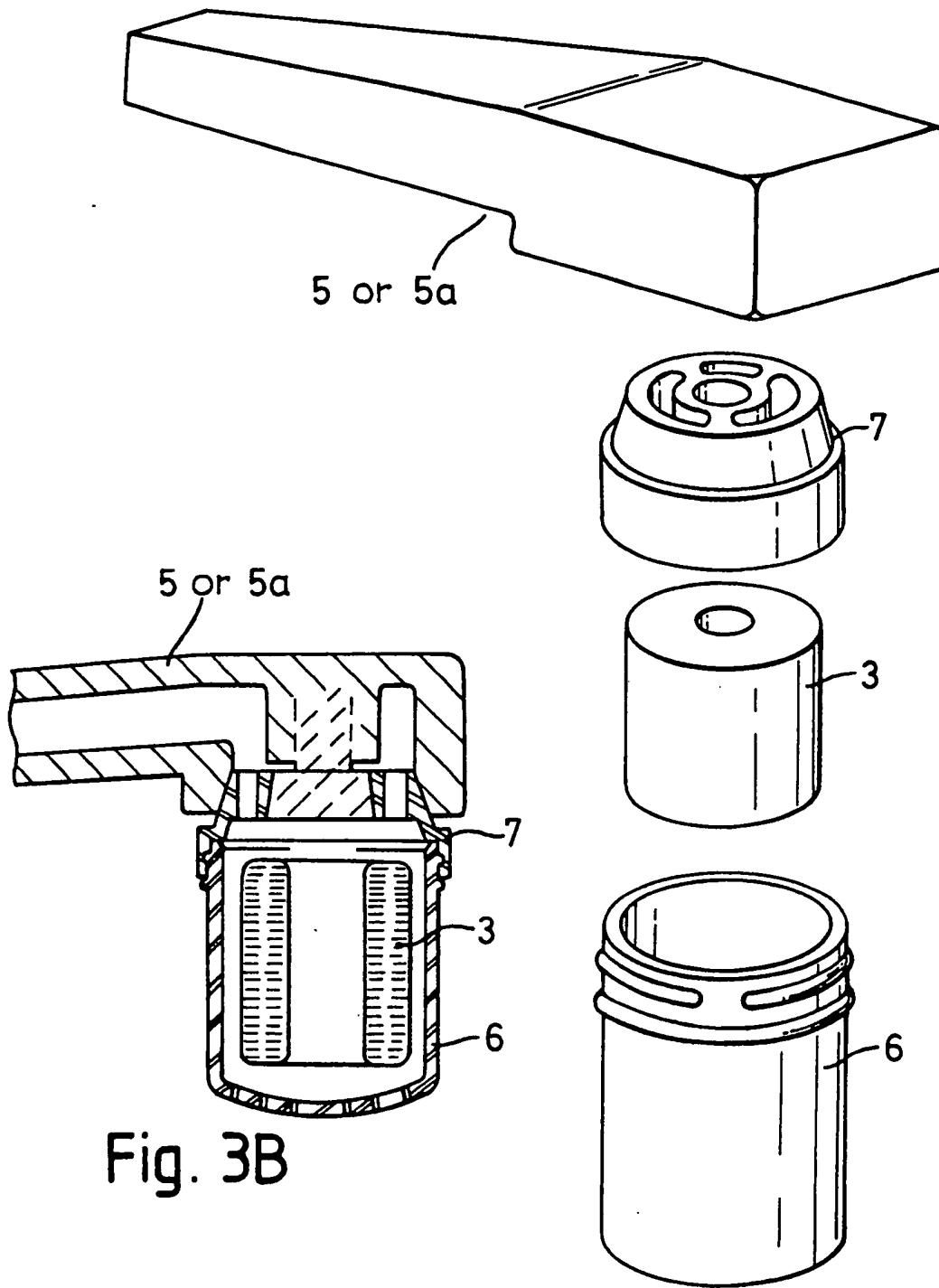


Fig. 3B

Fig. 3A

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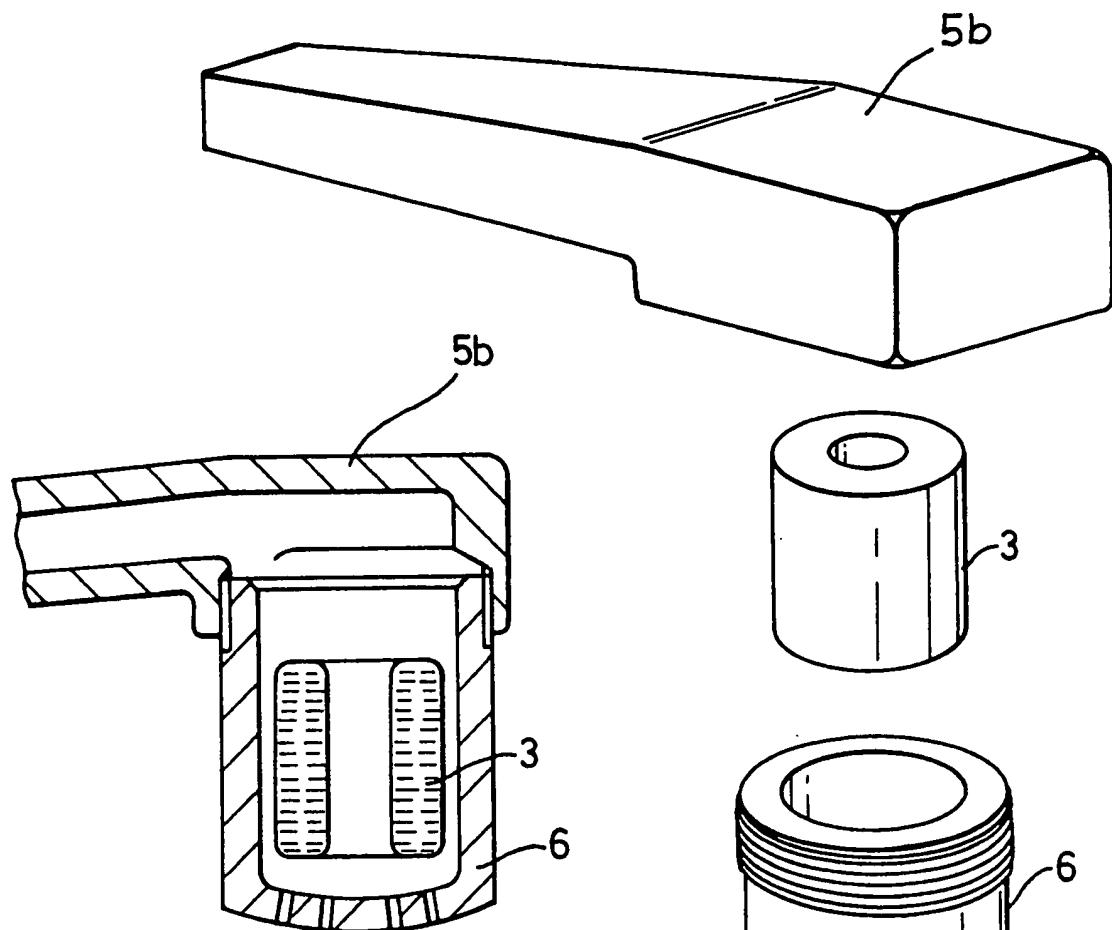


Fig. 4B

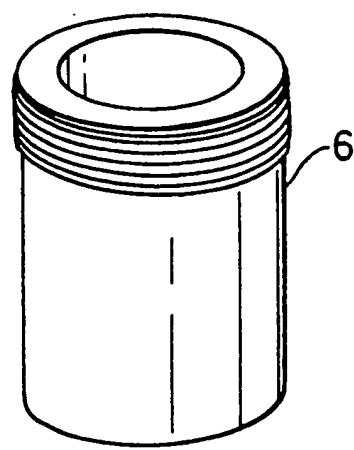


Fig. 4A

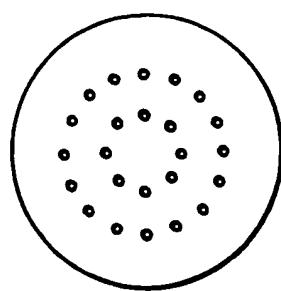


Fig. 4C

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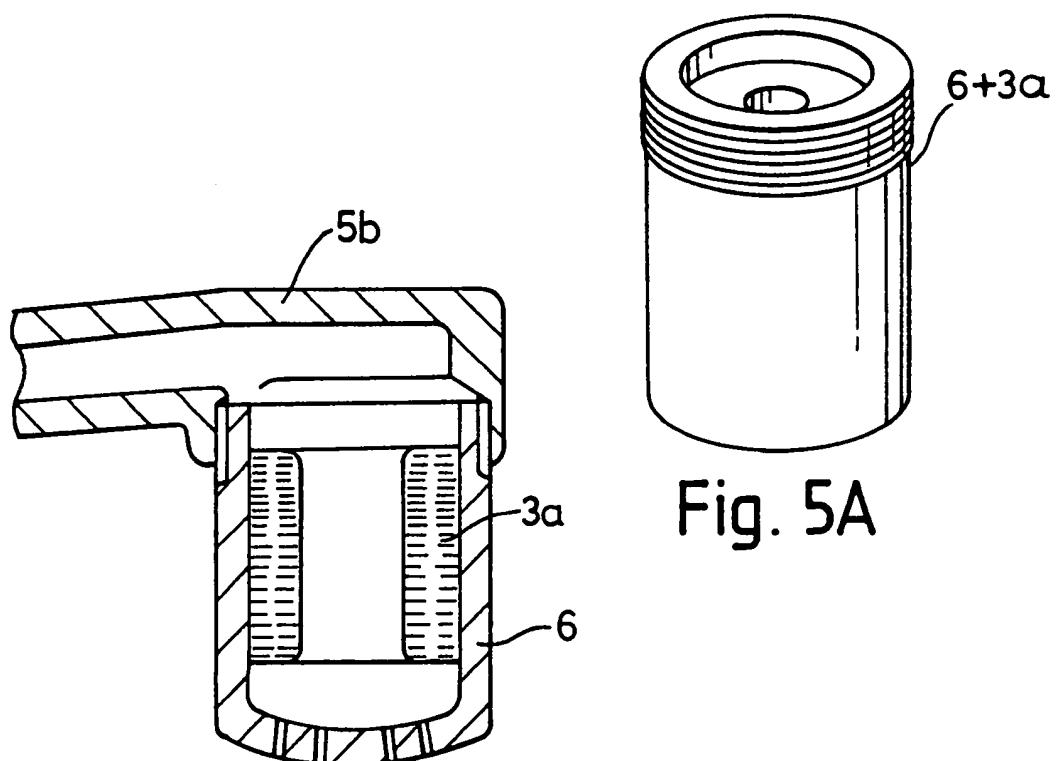
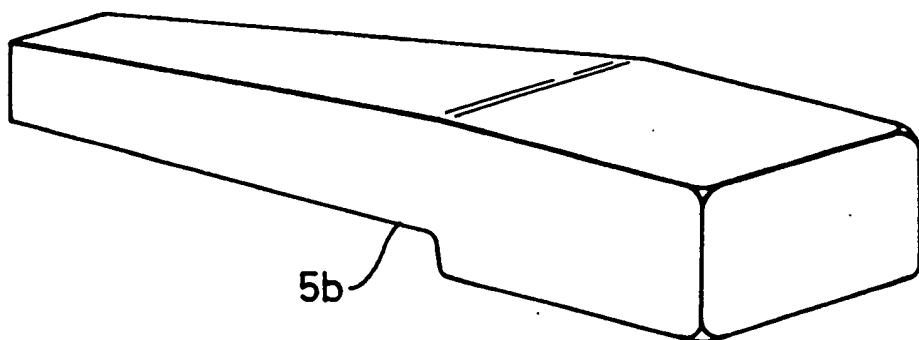


Fig. 5A

Fig. 5B

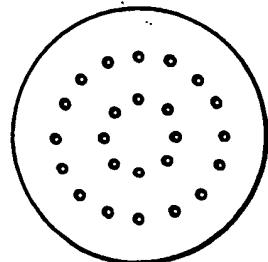


Fig. 5C

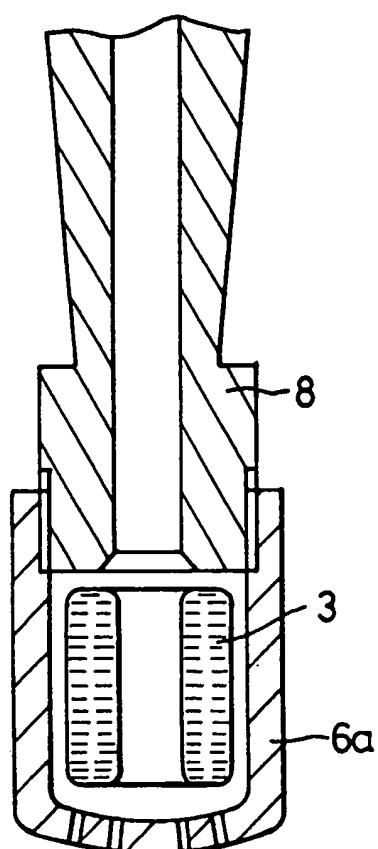


Fig. 6B

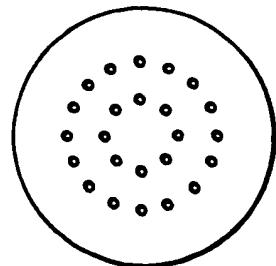


Fig. 6C

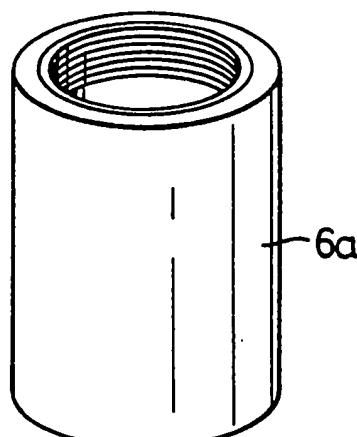
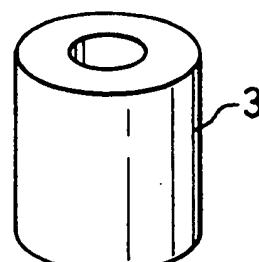
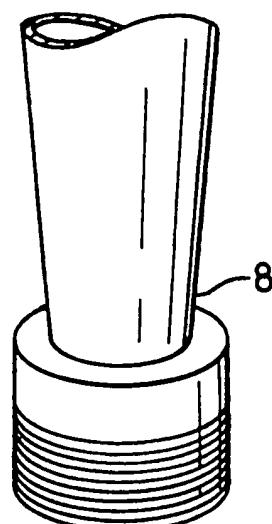


Fig. 6A

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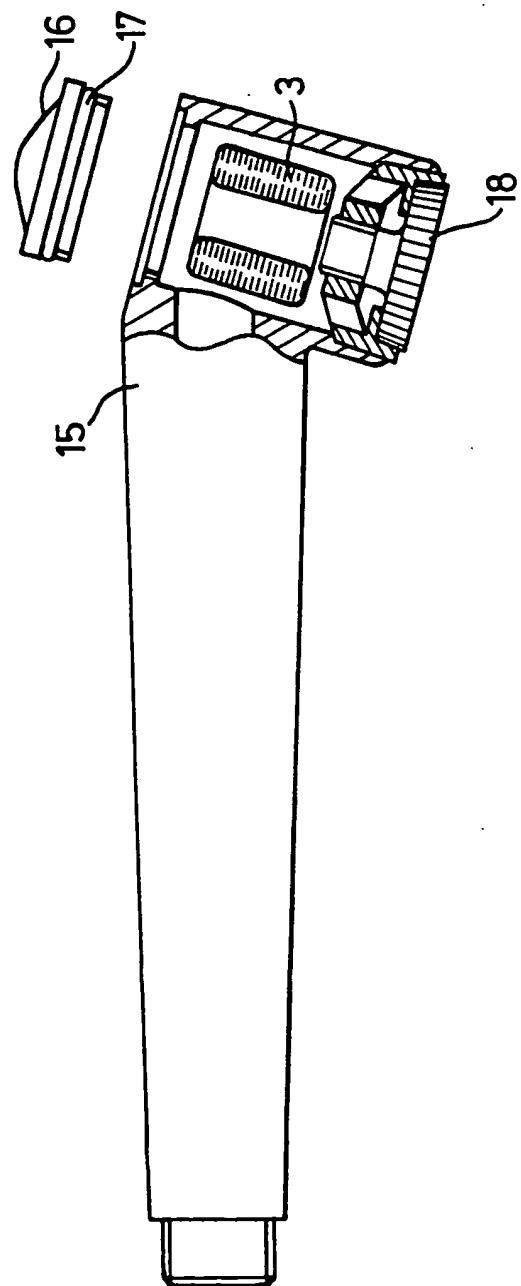


Fig. 7

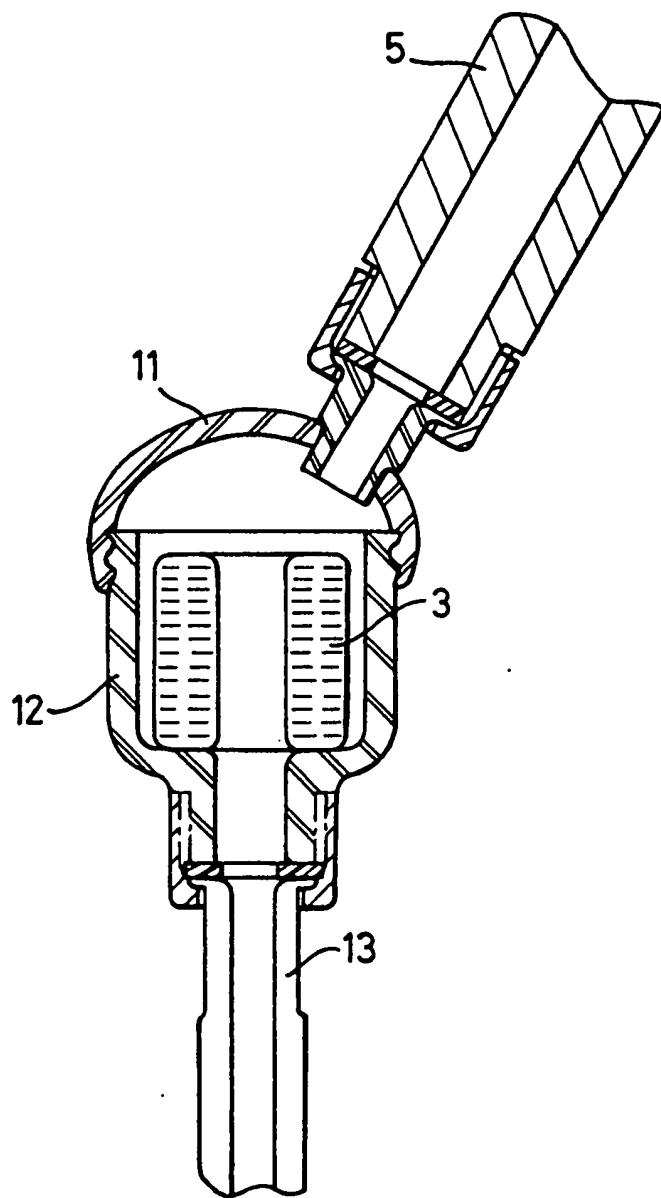


Fig. 8

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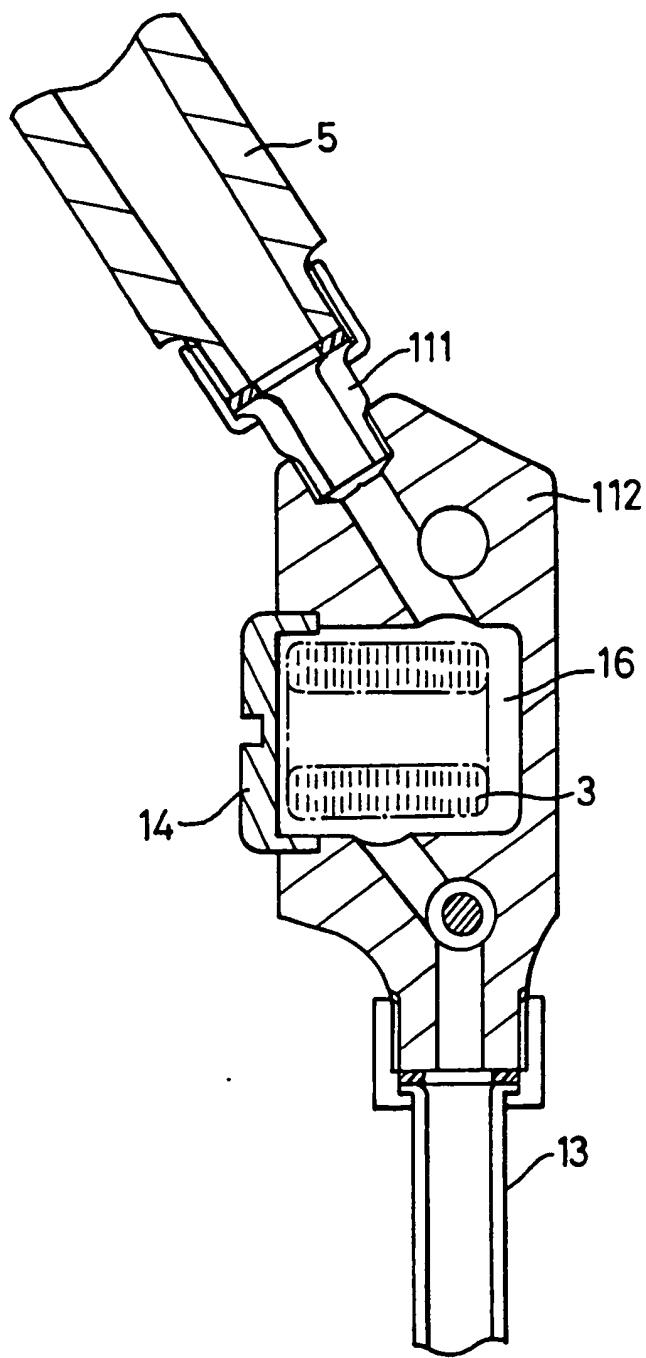


Fig. 9A

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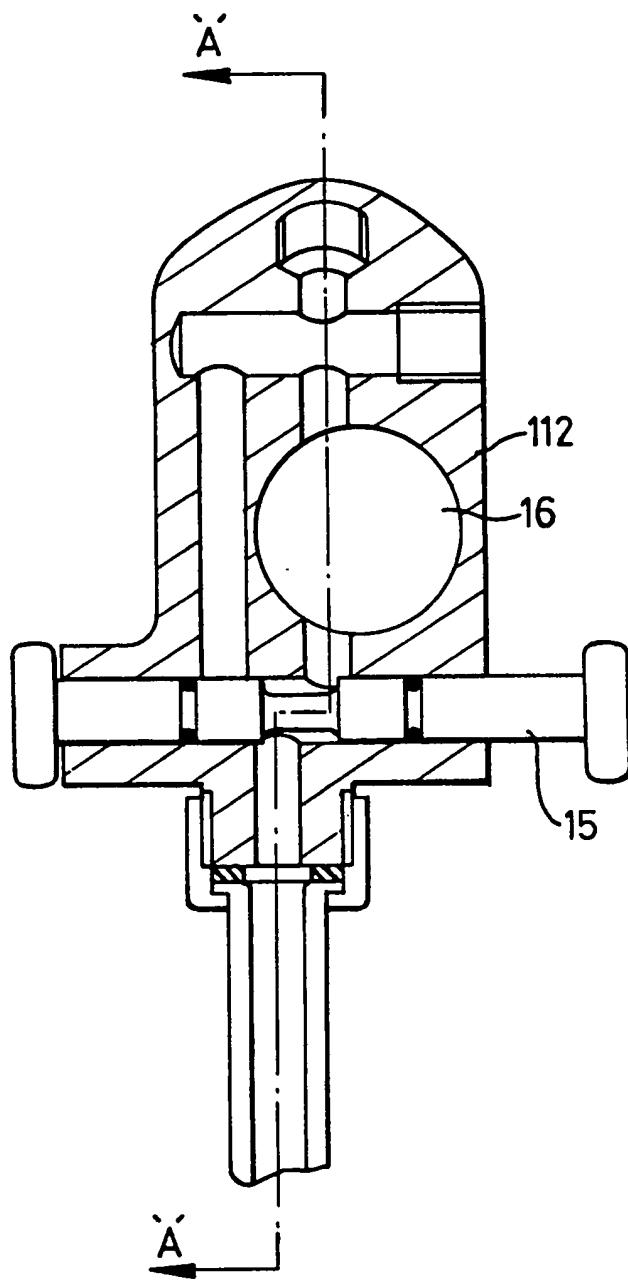


Fig. 9B

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SPRAY_OR_SHOWER_ASSEMBLIES.

Description:-

This invention relates to spray or shower assemblies used for containing and dispensing substances through spray heads.

Spray heads are currently used in many applications, i.e. domestic showers, wash basin sprays, hairdressing sprays, industrial showers, garden hoses and sprays etc. Until now they have only been able to discharge hot or cold plain water.

Additives or mixing substances are currently added during or prior to spraying. This can give problems such as uneven mixing, excessive waste etc.

According to the invention there is provided a spray or shower assembly comprising a head having at one end a connection for a hose, at the other end means for forming into a spray water issuing from the other end, and intermediate the two ends a chamber for housing a block of a substance to be dispensed in the spray, the chamber having means for gaining access to the chamber so that the block can be inserted in the chamber which can then be sealed.

This invention will allow almost any substance to be added, in soluble block form to the various spray heads allowing the following uses:-

- (a) water softeners,
- (b) water fragrances,
- (c) disinfectant,
- (d) medical lotions, etc.

Wash basin sprays with:

- (a) soap,
- (b) disinfectant,
- (c) medical lotions, etc.

Hairdressing sprays with;

- (a) shampoo,
- (b) conditioner, etc.

Industrial showers with;

- (a) cleaning agents,
- (b) first-aid additives,
- (c) disinfectant, etc.

5 Garden sprays with;

- (a) insecticides,
- (b) fertilizers,
- (c) weed killers;
- (d) cleaning agents, etc.

10 Embodiments of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

Fig. 1A is an exploded view of a dispensing shower head and Fig. 1B is a sectional view of the assembled head;

15 Figs. 2A and 2B are respectively an exploded view and an assembled sectional view of another form of dispensing shower head;

20 Figs. 3A and 3B are respectively an exploded view and an assembled sectional view of another form of adapted shower head;

Figs. 4A, 4B and 4C are respectively an exploded view, an assembled sectional view and an underneath view of third form of dispensing shower head;

25 Figs. 5A, 5B and 5C are respectively the same views as Figs. 4A, 4B and 4C but including a disposable structural part of the head;

Figs. 6A, 6B and 6C correspond respectively with Figs. 4A, 4B and 4C but show a dispensing spray head for a garden hose.

30 Fig. 7 is a side elevation, partially in section, of a modified dispensing shower head;

Fig. 8 shows in section, an adapter fitted between a water delivering hose and a shower head.

35 Fig. 9A shows, in section, a modification of the arrangement in Fig. 8, including a by-pass valve; and

Fig. 9B shows the same arrangement as in Fig. 9A but in a section transverse to that of Fig. 9A.

Figs. 1A and 1B show an adaptation of a standard shower head using a 5 mm centre screw.

5 The original centre screw is removed along with the spray ring 2. This centre screw will no longer be required.

10 Assembly of the adapted shower head is done by first passing a longer centre screw 1 through the spray ring 2 with a soluble block 3 placed over the screw. The assembly is then placed into a tubular adaptor 4 and screwed back into a shower head housing 5. The shower head is now ready for use.

15 Figs. 2A and 2B show an adaptation of a standard shower head using a three pronged centre securing pin.

The original securing pin is removed along with the spray ring 2a. This centre securing pin will no longer be required.

20 Assembly of the adapted shower head is done by first passing the longer centre securing pin 1a through the spray ring 2a with the soluble block 3 placed over the pin. This assembly is then placed into the tubular adaptor 4 and secured back into the shower head housing 5a. The shower head is now ready for use.

25 Figs. 3A and 3B show an adaptation suited to most existing shower heads.

The existing centre securing unit, which consists of either a screw and centre ring or a three pronged pin, is removed along with the spray rings.

30 The centre securing unit is placed through the adaptor 7 and secured back into the shower head 5 or 5a.

The soluble block is now placed within the moulded cup 6 which is then secured into the adaptor. The shower head is now ready for use.

35 Note:- in this version the adaptor 7 becomes a

permanent feature of the shower head into which the cup 6 is easily removed for refilling. This cup replaces the tubular adaptor 4 and the spraying rings 2 and 2a in the previous embodiments.

5 Figs. 4A, 4B and 4C show a complete dispensing shower head unit as an alternative to adapted shower heads.

10 The soluble block 3 is placed within a moulded cup 6 closed at one end by a perforated wall then screwed up into the shower head housing 5b. The shower head is now ready for use.

15 Figs. 5A, 5B and 5C are similar to Figs. 4A, 4B and 4C except that the cup 6 and the block 3a are supplied as one integral item which is disposed of and replaced when the block 3 is exhausted.

20 Figs. 6A, 6B and 6C show an adaptation for a garden hose.

25 The soluble block 3 is placed within a moulded cup 6a which is then screwed onto the existing hose end 8. The hose is now ready for use.

30 In Fig. 7, a shower head 15 incorporates a standard hose fitting which is connected directly to a standard shower hose.

25 The soluble block 3 is placed inside a chamber and enclosed by an upper cap 16 which is made watertight with an O-ring 17. A spray ring 18 is fitted to the lower end of the chamber and the shower head is now ready for use.

35 In Fig. 8, an adaptor cap 11 incorporates a standard hose fitting which is connected directly to a shower head 5 at the screwed end. The adaptor body 12 is secured onto a base connection 13 and then a tubular soluble block 3 is placed inside. The cap is then fitted and secured on top.

35 The shower head is then placed into its normal holder and is ready for use.

In Figs. 9A and 9B an adaptor screw 111 incorporates a standard hose fitting which is connected to a shower head 5. The adaptor body 112 is screwed onto a hose connection 13 and a tubular solid block 3 is placed inside and the 5 cover 14 is then fitted. The shower is then placed into its normal holder and is ready for use.

The body 112 also incorporates a slider valve 15 which, in one position (as shown in Fig. 9B) allows water to flow through the mixing chamber 16 and around the soluble 10 block 3 en route to the shower head 5. In the other position clear water by-passes the chamber 16 and goes directly to the shower head 5.

CLAIMS.

1. A spray or shower assembly comprising a head having at one end a connection for a hose, at the other end means for forming into a spray water issuing from the other end, and intermediate the two ends a chamber for housing a block of a substance to be dispensed in the spray, the chamber having means for gaining access to the chamber so that the block can be inserted in the chamber which can then be sealed.
2. An assembly according to claim 1, wherein the chamber is provided adjacent the other end of the head.
3. An assembly according to claim 1, wherein the chamber is provided adjacent the one end of the head.
4. An assembly according to claim 2 wherein the chamber is provided in a cup at the other end of the head and including the spray forming means.
5. An assembly according to claim 4, wherein the cup is detachable so as to provide access to the chamber.
6. An assembly according to claim 4, wherein access to the cup is provided by way of a removable cap.
7. An assembly according to claim 3, wherein the chamber is provided in an adapter interconnecting the hose and the head.
8. An assembly according to claim 7, wherein the adaptor has a manually-operable valve for selectively routing water flow through the chamber or by-passing the chamber.
9. A spray or shower assembly substantially as herein-before described with reference to Figs. 1A and 1B of the accompanying drawings.
10. A spray or shower assembly substantially as herein-before described with reference to Figs. 2A and 2B of the accompanying drawings.
11. A spray or shower assembly substantially as herein-before described with reference to Figs. 3A and 3B of the accompanying drawings.

12. A spray or shower assembly substantially as hereinbefore described with reference to Figs. 4A and 4B of the accompanying drawings.
- 5 13. A spray or shower assembly substantially as hereinbefore described with reference to Figs. 5A, 5B and 5C of the accompanying drawings.
14. A spray or shower assembly substantially as hereinbefore described with reference to Figs. 6A, 6B and 6C of the accompanying drawings.
- 10 15. A spray or shower assembly substantially as hereinbefore described with reference to Fig. 7 of the accompanying drawings.
- 15 16. A spray or shower assembly substantially as hereinbefore described with reference to Fig. 8 of the accompanying drawings.
17. A spray or shower assembly substantially as hereinbefore described with reference to Figs. 9A and 9B of the accompanying drawings.

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